

WHAT IS CLAIMED IS:

- 1                   1.       A network interface device comprising:  
2                    an isolation device adapted to isolate a transport medium internal to a  
3 customer premises from a transport medium external to the customer premises such that  
4 operational changes to one of the internal and external transport media do not affect the other  
5 of the internal and external transport media;  
6                    a first interface coupled with the isolation device and adapted to communicate  
7 with the external transport medium, wherein the external transport medium is in  
8 communication with a distribution point;  
9                    a second interface coupled with the isolation device and adapted to  
10 communicate with the internal transport medium; and  
11                   a microserver disposed external to the customer premises and coupled with the  
12 first and second interfaces, wherein the microserver is adapted to receive telecommunication  
13 information from the external transport medium and includes software for implementing a  
14 predetermined function over the internal transport medium by processing the received  
15 telecommunication information.
- 1                   2.       The network interface device recited in claim 1 wherein the isolation  
2 device and microserver are disposed within a common housing.
- 1                   3.       The network interface device recited in claim 2 wherein the common  
2 housing is disposed on an exterior wall of the customer premises.
- 1                   4.       The network interface device recited in claim 1 further comprising an  
2 addressable application device coupled with the microserver, wherein the addressable  
3 application device is adapted to receive the processed telecommunication information and to  
4 execute a defined application as an aid to implementing the predetermined function over the  
5 internal transport medium.
- 1                   5.       The network interface device recited in claim 4 wherein the  
2 addressable application device is disposed external to the customer premises.
- 1                   6.       The network interface device recited in claim 5 wherein the isolation  
2 device, microserver, and addressable application device are disposed within a common  
3 housing.

1                   7.       The network interface device recited in claim 1 wherein the  
2 microserver comprises an authentication microserver adapted to verify that the predetermined  
3 function is authorized for the customer premises.

1                   8.       The network interface device recited in claim 1 wherein the  
2 microserver comprises a file-transfer microserver adapted to transfer an electronic file of  
3 information to or from the network interface device.

1                   9.       The network interface device recited in claim 1 wherein the  
2 microserver comprises a dynamic host configuration protocol microserver adapted to manage  
3 an internet-protocol address assignment to a device coupled with the internal transport  
4 medium.

1                   10.      The network interface device recited in claim 9 wherein the internet-  
2 protocol address assignment comprises a public internet-protocol address assignment.

1                   11.      The network interface device recited in claim 9 wherein the internet-  
2 protocol address assignment comprises a private internet-protocol address assignment.

1                   12.      The network interface device recited in claim 1 wherein the  
2 microserver comprises a code-processing microserver adapted to receive code and process  
3 the code for use by another component of the network interface device.

1                   13.      The network interface device recited in claim 12 wherein the  
2 microserver further comprises a webserver microserver adapted to render a display of  
3 incoming web-page information suitable for presentation with a web-browser enabled device.

1                   14.      The network interface device recited in claim 1 wherein the  
2 microserver comprises an email alert microserver adapted to initiate an alert in response to  
3 receipt of an email message at an email account.

1                   15.      The network interface device recited in claim 1 wherein the  
2 microserver comprises an instant-messenger microserver adapted to provide instant-  
3 messaging functionality over the internal transport medium.

1                   16.      The network interface device recited in claim 1 wherein the  
2 microserver comprises:

3 a webserver microserver adapted to render a display of web-page information  
4 suitable for presentation with a web-browser enabled device; and  
5 an advertising microserver adapted to overlay an advertisement over the  
6 display of web-page information.

1 17. The network interface device recited in claim 1 wherein the  
2 microserver comprises a wireless microserver adapted to provide an interface between  
3 wireless communications within the customer premises to the external transport medium.

1 18. The network interface device recited in claim 1 wherein the  
2 microserver comprises an RF power-level microserver adapted to monitor an RF power level  
3 of telecommunication information received at the first interface.

1 19. The network interface device recited in claim 1 wherein the  
2 microserver comprises a test-access microserver adapted to verify proper functioning of  
3 another component of the network interface device.

1 20. The network interface device recited in claim 1 further comprising a  
2 webserver microserver coupled with the microserver and adapted to provide a customer-  
3 based graphical user interface for implementing software configuration changes of the  
4 microserver.

1 21. The network interface recited in claim 1 further comprising  
2 upgradeable firmware that supports the microserver.

1 22. A method for providing telecommunication information to a transport  
2 medium internal to a customer premises, the method comprising:

3 isolating the internal transport medium from a transport medium external to  
4 the customer premises such that operational changes to one of the internal and external  
5 transport media do not affect the other of the internal and external transport-media;

6 receiving the telecommunication information from the external transport  
7 medium;

8 selectively processing the received telecommunication information with a  
9 microserver disposed external to the customer premises; and

10 thereafter, implementing a predetermined function over the internal transport  
11 medium with the processed telecommunication information.

1                   23.     The method recited in claim 22 further comprising transmitting the  
2 processed telecommunication information to an addressable application device disposed  
3 external to the customer premises, wherein implementing the predetermined function  
4 comprises implementing an application over the internal transport medium with the  
5 addressable application device.

1                   24.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises verifying that the  
3 predetermined function is authorized for the customer premises with an authentication  
4 microserver.

1                   25.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises transferring an  
3 electronic file of information with a file-transfer microserver.

1                   26.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises managing an  
3 internet-protocol address assignment to a device coupled with the internal transport medium  
4 with a dynamic host configuration protocol microserver.

1                   27.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises receiving code and  
3 processing the code for use in implementing the predetermined function with a code-  
4 processing microserver.

1                   28.     The method recited in claim 27 wherein selectively processing the  
2 received telecommunication information with the microserver further comprises rendering a  
3 display of incoming web-page information suitable for presentation with a web-browser  
4 enabled device with a webserver microserver.

1                   29.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises initiating an alert in  
3 response to receipt of an email message at an email account with an email alert microserver.

1                   30.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises providing instant-

3 messaging functionality over the internal transport medium with an instant-messenger  
4 microserver.

1           31.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises:

3                     rendering a display of web-page information suitable for presentation with a  
4 web-browser device with a webserver microserver; and

5                     overlaying an advertisement over the display of web-page information with an  
6 advertising microserver.

1           32.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises providing an  
3 interface between wireless communications within the customer premises to the external  
4 transport medium with a wireless microserver.

1           33.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises monitoring an RF  
3 power level of the telecommunication information received from the external transport  
4 medium with an RF power-level microserver.

1           34.     The method recited in claim 22 wherein selectively processing the  
2 received telecommunication information with the microserver comprises providing a  
3 customer-based graphical user interface for implementing configuration changes of software  
4 governing how the received telecommunication information is selectively processed.

1           35.     A network interface device comprising:

2                     means for isolating a transport medium internal to a customer premises from a  
3 transport medium external to the customer premises such that operational changes to one of  
4 the internal and external transport media do not affect the other of the internal and external  
5 transport media;

6                     means for receiving telecommunication information from the external  
7 transport medium;

8                     means for selectively processing the received telecommunication information,  
9 wherein such means for selectively processing is disposed external to the customer premises;

10 and

11 means for implementing a predetermined function over the internal transport  
12 medium with the processed telecommunication information.

1 36. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 verifying that the predetermined function is authorized for the customer premises.

1 37. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 transferring an electronic file of information to or from the network interface device.

1 38. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 managing an internet-protocol address assignment to a device coupled with the internal  
4 transport medium.

1 39. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 receiving code and for processing the code for use by another component of the network  
4 interface device.

1 40. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 rendering a display of incoming web-page information suitable for presentation with a web-  
4 browser enabled device.

1 41. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 initiating an alert in response to receipt of an email message at an email account.

1 42. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 providing instant-messaging functionality over the internal transport medium.

1 43. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises:

3 means for rendering a display of web-page information suitable for  
4 presentation with a web-browser device; and  
5 means for overlaying an advertisement over the display of web-page  
6 information.

1 44. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 providing an interface between wireless communications within the customer premises to the  
4 external transport medium.

1 45. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 monitoring an RF power level of the telecommunication information received from the  
4 external transport medium.

1 46. The network interface device recited in claim 35 wherein the means for  
2 selectively processing the received telecommunication information comprises means for  
3 providing a customer-based graphical user interface for implementing software changes of  
4 the means for selectively processing.